REMARKS

I. General

Applicant respectfully requests reconsideration of the present application.

II. Disposition of the claims

Claims 1-20 are pending. Claims 1-15 and 19 stand rejected. Claims 16-18 and 20 were previously withdrawn, and are now canceled.

Claim 1 is amended as shown. Supporting disclosures are in the specification as-filed, e.g., the paragraph at page 18, lines 5-13. It is submitted that the present amendment is allowable under Rule 116(b)(2) (placing claims in better form for appeal assuming the rejection is maintained).

Canceling claims 16-18 and 20 is allowable under Rule 116(b)(1).

This amendment changes and deletes claims in this application. A detailed listing of all claims that are, or were, in the application, irrespective of whether the claim(s) remain under examination in the application, is presented, with an appropriate defined status identifier.

III. 35 USC § 103 Rejection

Claims 1-15 and 19 were rejected as obvious over Moser (U.S. Pat. No. 5,417,956). Office action, para. 6. According to the rejection of record, Moser fails to suggest the recited *product value*. Non-final Office action, p. 4, ll. 4-7. Yet the rejection urged that no "patentable distinction" exists, because "it would have been a trivial matter for one of ordinary skill in the art to select a pressure which results in the [*product value*]." Non-final Office action. p. 4, subpara. b.

The response to the non-Final Office action urged a lack of motivation to do what the present inventor has done, (A) because Moser's teachings are too vague to determine the *product value*, let alone the pressure gradients between parts of the reactor, and (B) because Moser's silence on washing *the precipitated nanoscale powders ... with a second metal containing substance* cannot motivate such a step.

The final Office action expressed disagreement with (A) but really did not squarely address (B). Final Office action, para. 3. In any case, the rejection was maintained. Final Office action, paras. 2-3.

In this response to the Final Office action, Mosler was studied and the present amendment is proposed to place the case in condition for allowance. The following is submitted:

(C) Mosler teaches away from calcining by processes other than inertial cavitation, described at column 3, lines 5-14, as follows:

> spheric pressure. As the pressure drops rapidly from above about 1,000 psig to atmospheric pressure, bubbles form within the mixed solution and thereafter rapidly collapse releasing energy. The energy released when the bubbles collapse, known as cavitation, is transferred to the precipitated metal material suspended within the liquid. This rapid heat up followed by a rapid local cooling as the energy is released results in an effective high temperature calcining of the solid metal materials formed while they are in a high state of dispersion. The

For example, Moser teaches that "thermal calcining, which is normally carried out as a separate step in a co-precipitation process, occurs in situ when the pressures are relatively high of from about 18,000 to 50,000 psig." Moser, col. 2, ll. 8-13. See also, Mosler, col. 3, ll. 26-28 (Normally, additional calcining is not required when pressures above about 20,000 psi are employed during processing."). In other words, Moser's calcining is a result of these pressures and the tensile properties of the host solution liquid.

(D) Perhaps the most relevant disclosure in Mosler is the paragraph bridging columns 3 and 4, which discusses recirculating the metal salt solution and which read as follows:

> In another embodiment (not shown), which is presently preferred, the reservoir 22 of FIG. 2 contains precipitating agent solution and the reservoir 24 contains the metal salt solution for addition to the recirculating line. This embodiment operates in the same manner as the FIG. 2 embodiment except for the reversal of the two reservoirs. This embodiment is presently the most preferred because precipitated nanophase solid state material is recirculated so that particle sizes are further reduced during recirculation, and additional high temperature calcining is realized.

In the last clause of the last sentence, Mosler teaches that "additional high temperature calcining in [sic, is] realized." Mosler, col. 4, ll. 4-5. So, even if the recirculated metal salt solution is calcinated a second time by inertial cavitation, the process occurs in situ.

(E) It is submitted that Mosler's in situ calcination does not occur *in an environment rich in air, oxygen, hydrogen, nitrogen, and/or carbon to yield nanoscale powders chosen from oxides, metals, carbides, and nitrides*.

(F) Claim 1 was proposed to be amended to recite the following language, with markings to show the changes made: *wherein the washed nanoscale powders are calcined calcined in an environment rich in air, oxygen, hydrogen, nitrogen, and/or carbon to yield nanoscale powders chosen from oxides, metals, carbides, and nitrides*. Because Moser's silence as to a particular embodiment cannot amount to a motivation to make that embodiment, let alone a reasonable expectation of success to do what the present inventors have done, it is submitted that Moser's teachings cannot support the present rejection, which should be withdrawn.

Conclusion

The present application is believed in condition for allowance. Favorable reconsideration of the application as amended is respectfully requested.

The Examiner is invited to contact the undersigned by telephone if it is felt that a telephone interview would advance the prosecution of the present application.

The Commissioner is hereby authorized to charge any additional fees which may be required regarding this application under 37 C.F.R. §§ 1.16-1.17, or credit any overpayment, to Deposit Account No. 19-0741. Should no proper payment be enclosed herewith, as by a check or credit card payment form being in the wrong amount, unsigned, post-dated, otherwise improper or informal or even entirely missing, the Commissioner is authorized to charge the unpaid amount to Deposit Account No. 19-0741. If any extensions of time are needed for timely acceptance of papers submitted herewith, Applicant hereby petitions for such extension under

Atty. Dkt. No. 454DIV1 (old)
Atty. Dkt. No. 037768-0177 (new)
Appl. No. 10/755,024

37 C.F.R. § 1.136 and authorizes payment of any such extensions fees to Deposit Account No. 19-0741.

Respectfully submitted,

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